

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 4, 9 and 11 are currently being amended. Claims 4 and 11 have been amended to include the features of claim 8, which has been cancelled. Claims 13-28 are being added. No new matter is being added. New independent claims 19 and 26 correspond to independent claims 4 and 11, respectively, but are written with some of the limitations in “means” format. No new matter has been added.

This amendment deletes, adds and changes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 4, 7 and 9-28 are now pending in this application.

Allowable subject matter

Applicant appreciates the indication that claims 8-10 contain allowable subject matter. The subject matter from claim 8, which has been cancelled, has been incorporated into independent claims 4, 11, 19 and 26, which are believed to be allowable for the reasons provided below.

Rejections under 35 U.S.C. § 103

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,151,811 to Makino (“Makino”) in view of JP 5-119276 to Suzuki (“Suzuki”). Claims 4, 7 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Makina in view of Suzuki and U.S. Patent No. 6,243,128 to Yamakawa et al. (“Yamakawa”). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claim 4 recites “a mirror provided in the vicinity of another side in the housing, which reflects the laser beam deflected by the polygon mirror at a predetermined

angle to guide the laser beam outside the housing; and a projection provided on an outer surface of the housing between the polygon mirror and the mirror, wherein a central axis of the projection passes through an exposure light spot of the laser beam irradiated on the image carrier.” Makino and Suzuki neither suggest this combination of features, nor its advantages.

Makino discloses in FIG. 6 a polygon mirror 32 in an optical box 37, and locating pin 46. Makino further discloses “the entire optical box 37 can be pivoted about pin 46.” (Col. 7, lines 16-17).

Makino, however, fails to teach any configuration where the locating pin 46, equated by the Office Action with the projection as claimed, has a central axis passing “through an exposure light spot of the laser beam irradiated on the image carrier” as recited in claim 4, as amended.

Suzuki fails to cure the deficiencies of Makino. Suzuki discloses a reflecting mirror 7 in FIG. 5 at an end of an optical box 10 with respect to a polygon mirror 4. The reflecting mirror reflects a laser beam to the outside of the box 10. Suzuki, however also fails to suggest the configuration as claimed in claim 4, where the projection has a central axis passing through an exposure light spot of the laser beam irradiated on the image carrier. Thus, even if Makino were modified by Suzuki, the result would not meet the limitations of claim 4.

Yamakawa, was cited for disclosing a developing device, transfer device, and fixing device, but fails to cure the deficiencies of Makino and Suzuki.

Moreover, the references cited in the rejection fail to recognize the advantages of the structure of claim 4. Because the projection has a central axis passing through an exposure light spot of the laser beam irradiated on the image carrier, it is possible to suppress displacement of the scanning start position in the main scanning direction when the exposure device is rotated about the projection. (See specification, page 12, lines 3-15). The references cited in the rejection fail to suggest this advantage.

Independent claim 11 recites “a mirror provided in the vicinity of another side in the housing, which reflects the laser beam deflected by the polygon mirror at a predetermined angle to guide the laser beam outside the housing; and a projection provided on an outer surface of the housing between the polygon mirror and the mirror, wherein a central axis of the projection passes through an exposure light spot of the laser beam which is reflected by the mirror”, and is thus patentable for reasons analogous to claim 4.

New independent claims 19 and 26 respectively recite “a reflecting means, provided in the vicinity of another side in the housing, for reflecting the laser beam deflected by the deflecting means at a predetermined angle to guide the laser beam outside the housing; and a projection provided on an outer surface of the housing between the deflecting means and the reflecting means, wherein a central axis of the projection passes through an exposure light spot of the laser beam irradiated on the image carrier” and “a reflecting means, provided in the vicinity of another side in the housing, for reflecting the laser beam deflected by the deflecting means at a predetermined angle to guide the laser beam outside the housing; and a projection provided on an outer surface of the housing between the deflecting means and the reflecting means, wherein a central axis of the projection passes through an exposure light spot of the laser beam which is reflected by the reflecting means”, and are thus patentable for reasons analogous to claim 4.

The dependent claims are patentable for at least the same reasons as their respective independent claims, as well as for further patentable features recited therein.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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